REMARKS

The Final Office Action, mailed May 18, 2007, considered claims 1–36. Claims 1–9, 16, 18–30, 32, 35 and 36 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Scott E. Hudson & John T. Stasko, *Animation Support in a User Interface Toolkit: Flexible, Robust, and Reusable Abstractions* (1993) (hereinafter Hudson), in view of Grinstein et al., U.S. Patent No. 6,714,201 (filed Apr. 14, 2000) (hereinafter Grinstein), in further view of Hoddie et al., U.S. Patent No. 5,727,141 (filed May 5, 1995) (hereinafter Hoddie). Claims 10–15, 17, 28, 31, 33 and 34 were rejected under U.S.C. §103(a) as being unpatentable over Hudson, in view of Grinstein, in further view of Hoddie and in further view of Milne, U.S. Patent No. 5,553,222 (filed Dec. 19, 1995) (hereinafter Milne).[1]

By this response, claims 1, 5, 18, and 27 are amended. Claims 29–36 are cancelled. Claims 1–28 remain pending. Claims 1, 18, and 27 are independent claims which remain at issue. Support for the amendments may be found within Specification pp. 59–63, and Fig's 25–26.[2]

As reflected in the claims, the present invention is directed generally toward methods, computer program products, and systems in which timing intervals are generated from clock properties, and used to interpolate values for smooth animation. Claim 1 recites, for instance, in combination with all the elements of the claim, a system comprising a first and second component, a system clock, and an animation function subsystem. The first component comprises an event list generator which includes a state machine, an interval generator, and a high-level timing component wherein the state machine groups events initially scheduled by specified clock properties into an event list, and wherein the interval generator uses the event list to compute a corresponding interval list. The second component comprises a low-level timing component and a low-level computation engine wherein the second component receives the interval list from the first component, and wherein the low-level computation engine controls

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[1] Although the prior art status of the cited art is not being challenged at this time, Applicants reserve the right to challenge the prior art status of the cited art at any appropriate time, should it arise. Accordingly, any arguments and amendments made herein should not be construed as acquiescing to any prior art status of the cited art.

[2] However, it should be noted that the present invention and claims as recited take support from the entire Specification. As such, no particular part of the Specification should be considered separately from the entirety of the Specification.

output based on current time and interpolates the location of an animated object based on interval data and current time.

Claim 18 recites, in combination with all the elements of the claim, a method which includes a first component receiving clock data and graphics data. The method includes a state machine which generates an event list. It includes an interval generator generating an interval list from the event list and clock data. A second component receives the interval list. The second component interpolates the location of an animated object based on interval and current time. Finally, the second component provides a progress value to a low-level animation subsystem and the low-level animation subsystem determines a current value for a varying property of an animated object

Claim 27 recites a computer program product embodiment of the method of claim 18.

Independent claims 1, 18, 27 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Hudson in view of Grinstein and in view of Hoddie.[3] As discussed by phone, claims 1, 18, and 27 have now been amended to more particularly point out the elements of the invention. The Applicants submit that Hudson, Grinstein, and Hoddie, both separately and in combination, fail to teach or suggest each and every element of the invention as is now claimed.

Concerning claim 1, in particular, Hudson, Grinstein, and Hoddie fail to teach or suggest a system which comprises a first component, a second component, a system clock, and an animation function subsystem. Hudson, Grinstein, and Hoddie fail to teach or suggest the first component comprising an event list generator which includes a state machine, an interval generator, and a high-level timing component, where the state machine groups events initially scheduled by specified clock properties into an event list, and where the interval generator uses the event list to compute a corresponding interval list. Hudson, Grinstein, and Hoddie fail to teach or suggest a second component comprising a low-level timing component and a low-level computation engine. Hudson, Grinstein, and Hoddie fail to teach or suggest the second component receiving the interval list from the first component, and fail to teach or suggest the low-level computation engine controlling output based on current time and interpolating the location of an animated object based on interval data and current time. Hudson, Grinstein, and Hoddie fail to teach or suggest the system clock providing consistent time to both the high-level

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[3] Office Communication p. 2 (paper no. 20070511) (May 18, 2007).

timing component and the low-level timing component. Finally, Hudson, Grinstein, and Hoddie fail to teach or suggest the animation function subsystem determining a current value for a varying property of an animated object.

As each and every element of independent claim 1 is not taught or suggested by the cited prior art references, the rejection of claim 1 under 35 U.S.C. § 103(a) is improper and should be withdrawn. The Applicants respectfully request favorable reconsideration.

Concerning claim 18, Hudson, Grinstein, and Hoddie fail to teach or suggest a state machine generating an event list. Hudson, Grinstein, and Hoddie fail to teach or suggest an interval generator generating an interval list from the event list and clock data. Hudson, Grinstein, and Hoddie fail to teach or suggest a second component receiving the interval list. Hudson, Grinstein, and Hoddie fail to teach or suggest the second component interpolating the location of an animated object based on interval data and current time and providing a progress value to a low-level animation subsystem. Finally, Hudson, Grinstein, and Hoddie fail to teach or suggest the low-level animation subsystem determining a current value for a varying property of an animated object.

As each and every element of independent claim 18 is not taught or suggested by the cited prior art references, the rejection of claim 18 under 35 U.S.C. § 103(a) is improper and should be withdrawn. The Applicants respectfully request favorable reconsideration.

Claim 27 is a computer program product of the method recited in claim 18. Correspondingly, as each and every element of independent claim 27 is not taught or suggested by the cited prior art references, the rejection of claim 18 under 35 U.S.C. § 103(a) is improper and should be withdrawn. The Applicants respectfully request favorable reconsideration.

In response to the Applicant's arguments in "Amendment D," filed Feb. 16, 2007, the Examiner asserted:

> "Applicant argues that Hudson does not teach the claimed second component and
> that the teaching relied upon in Hudson is merely a hypothetical conjecture . . . . The
> examiner respectfully maintains that the rejections are proper because Hudson teaches the
> advantage and reasons why such a low level system that would provide direct access to
> the machine would be desirable. In particular, . . . Hudson states that the low level
> systems would provide faster and better performance for real-time animation. Thus, the
> reference would give motivation to one of ordinary skill in the art to use a second

component that provides faster and more direct animation support by having direct access to the machine. Further, Hudson teaches in a second instance of using the second component on page 8, towards the middle of the 2nd col (sic) by teaching of using low-level idle events that form the protocol for the animation abstraction. In this instance, the low-level component is associated with the operating system and the redraw cycle. Thus, Hudson does teach the claimed second component."[4]

The Applicants respectfully disagree. The portion of Hudson cited by the Examiner for teaching the second component reads:

> "... *even if* better support becomes available or 'low-level' systems that provide more direct access to the machine are employed, there will always be cases where realtime *goals cannot be met* ..."[5]

The Applicants submit that the above statement is merely a hypothetical conjecture – Hudson states that "even if . . . low-level systems . . . are employed, there will . . . be cases . . . where goals cannot be met"[6] – but it certainly does not enable the claimed second component to be practiced without undue experimentation. The Examiner argues that "Hudson teaches the advantage and reasons why such a low level system that would provide direct access to the machine would be desirable"[7] but the Examiner does not assert – as would be required for rejection under 35 U.S.C. § 103 – that the second component as disclosed and claimed is *enabled*. Desirability of an element is insufficient for obviousness under 35 U.S.C. § 103 - for purposes of obviousness, the feature must be enabled. Further, the Examiner cited the "low-level idle events" of Hudson p. 8 col. 1 in support of the second component. The Applicants point out, however, that the events thus cited are the same events in Hudson Fig. 5 which were cited by the Examiner[8] as teaching the event list generator which is part of the claimed first component. The Applicants respectfully submit that as the claim teaches both the first and second component, the Examiner errs by citing the same material for both.

In view of the foregoing, Applicants respectfully submit that the other rejections to the claims are now moot and do not, therefore, need to be addressed individually at this time. It will be appreciated, however, that this should not be construed as Applicants acquiescing to any of

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[4] Office Comm. p. 18.
[5] Hudson p. 7, col. 2 § 4
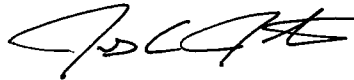[6] Hudson p. 7 § 4 ¶ 1.
[7] Office Comm. p. 18.
[8] *See* Office Comm. p. 2.

the purported teachings or assertions made in the last action regarding the cited art or the pending application, including any official notice. Instead, Applicants reserve the right to challenge any of the purported teachings or assertions made in the last action at any appropriate time in the future, should the need arise. Furthermore, to the extent that the Examiner has relied on any Official Notice, explicitly or implicitly, Applicants specifically request that the Examiner provide references supporting the teachings officially noticed, as well as the required motivation or suggestion to combine the relied upon notice with the other art of record.

In the event that the Examiner finds remaining impediment to a prompt allowance of this application that may be clarified through a telephone interview, the Examiner is requested to contact the undersigned attorney at 801-533-9800.

Dated this 26th day of June, 2007.

Respectfully submitted,

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